

Release Notes

Model	Real Time Mesoscale Analysis (RTMA), UnRestricted Mesoscale Analysis (URMA), Precipitation Analysis (PcpAnl), and Real Time Mesoscale Analysis with Rapid Updates (RTMA-RU)
Version	RTMA/URMA v2.6.0 and PcpAnl v3.0.0
Implementation date/time	12/13/2017 1515 UTC
Purpose	Gridded two-dimensional surface analysis of NDFD variables for situational awareness, calibration, and verification/validation. URMA runs 6 hours after RTMA to include late arriving observational data. URMA is intended for use in verification and historical analysis of record, and is the analysis of record used by National Blend of Models. The RTMA-RU produces a new analysis every 15 minutes to provide enhanced support for aviation users as well as those in need of a rapidly updated analysis with low latency.
Changes being made for this release	<p>For RTMA-RU:</p> <ul style="list-style-type: none"> • Introduction of a new system, based upon RTMA, with 15 minute updates for CONUS • Available about 16-17 minutes after analysis time • Variables analyzed: temperature, moisture, wind, gust, ceiling, visibility, and pressure <p>For RTMA/URMA:</p> <ul style="list-style-type: none"> • Add GLERL-adjusted observations over Great Lakes (URMA only) • New terrain and land/sea mask for CONUS, Hawaii, and Puerto Rico domains • Add daily min/max RH values for all domains (URMA only) • Add significant wave height to URMA-CONUS • Add ceiling to RTMA/URMA for Alaska • Observation quality control changes • Reduce coastal steepening, removing zero-increment line along coastlines <p>For PcpAnl:</p> <ul style="list-style-type: none"> • Move precip RTMA/URMA processing out of PcpAnl package, merge into RTMA/URMA package • Add hourly precipitation for CONUS and Puerto Rico domains
Developed by	NOAA / NWS / NCEP / Environmental Modelling Center
Runs on	The National Weather Service (NWS) Weather and Climate Operational Supercomputing System (WCOS)
Community software	Gridpoint Statistical Interpolation (GSI)
Input	<ul style="list-style-type: none"> • RTMA and URMA 2.5 km CONUS grids - a blend of the downscaled 3km HRRR 1h-forecast with the best-available downscaled 3 km NAM-nest forecast for the first guess. The 1-h downscaled RAP is used to fill around the edges of the domain. • AKRTMA/AKURMA 3 km grid - a blend of the downscaled RAP 1h-forecast and the best-available, downscaled NAM-nest forecast for the first guess

	<ul style="list-style-type: none"> ● HIRTMA/HIUMRA 2.5 km grid - the best-available, downscaled NAM-nest forecast for the first guess ● PRRTMA/PRURMA 2.5 km grid - the best-available, downscaled 3 km NAM-nest forecast for the first guess ● GURTMA 2.5 km grid - the best-available, downscaled GFS forecast for the first guess. This domain is only run at 3 hour intervals. ● RTMA-RU 2.5 km grid - the best available 15 min forecast output from the HRRR. The best-available downscaled RAP is used to fill around the edges of the domain. ● All available surface observations (METAR, buoy, ship, surface mesonet), low-level satellite winds, ASCAT winds, WindSat winds, and GOES Imager sky cover observations ● PcpAnl - “early” Stage II (from radar DPA and METAR gauges), and available RFC hourly QPE by 33min past the hour for RTMA; hourly/6-hourly/24h QPEs from River Forecast Centers, and gauge QC’d hourly MRMS QPE for Stage IV/URMA
Output and where to find it	<p>Output from RTMA-RU may be found in the addresses below having ‘rtma’ in the path. name.</p> <p>ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/rtma/prod/ ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/urma/prod/ ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/pcpanl/prod/ http://www.ftp.ncep.noaa.gov/data/nccf/com/rtma/prod/ http://www.ftp.ncep.noaa.gov/data/nccf/com/urma/prod/ http://www.ftp.ncep.noaa.gov/data/nccf/com/pcpanl/prod/ http://www.nomads.ncep.noaa.gov/pub/data/nccf/com/rtma/prod/ http://www.nomads.ncep.noaa.gov/pub/data/nccf/com/urma/prod/ http://www.nomads.ncep.noaa.gov/pub/data/nccf/com/pcpanl/prod/ http://mag.ncep.noaa.gov/observation-type-area.php</p>
Primary users	<ul style="list-style-type: none"> ● NWS National Centers ● Weather Forecast Offices ● Global Community ● Federal Aviation Administration
In the future	<ul style="list-style-type: none"> ● Update background error covariance model to include flow-dependence for improved assimilation of observations ● Improved observation quality control, especially for winds ● New, unified terrain and land/sea mask for Alaska ● Remove coarse output legacy grids ● Introduce new observations, e.g. mesonet visibility ● Add ceiling and sky cover variables to grids to OCONUS domains ● Address precipitation coverage gaps offshore of CONUS ● Add significant wave height analysis to OCONUS domains ● Enhance analysis of ceiling and visibility through improved algorithm ● Make RTMA-RU available within 15 minutes after analysis time

For more information on the technical aspects of this upgrade, please contact ncep.pmb.dataflow@noaa.gov .

For more information on the scientific aspects of this upgrade, please contact rtma.feedback.vlab@noaa.gov.